

1st IEEE International Conference on Industrial Cyber-Physical Systems ICPS2018

Special Session on

“OPEN AND INTEROPERABLE TECHNOLOGIES FOR DESIGN AND OPERATION OF DECENTRALIZED ICPS”

organized by

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Call for Papers

Scope of the Special Session (~200 Words):

This special session is co-organized by the European H2020 research projects FAR-EDGE, AUTOWARE and DAEDALUS, within the Factories of the Future Digital automation Domain. We welcome submissions that report research advances in Open Technologies as enablers of Industrial Cyber-Physical Systems. The specific focus of the session is on decentralized or fully distributed systems, harnessing the power of Edge / Fog Computing at any scale throughout the automation pyramid – from field controllers up to enterprise information systems – with the goal of delivering more flexible, effective, reactive and robust ICPS to real-world plants. The session will cover technologies and methodologies over the life-cycle of ICPS, from the design stage to deployment and maintenance; it will touch both the issues of developing distributed intelligence for ICPS - with or without real-time constraints - and the challenge of interoperable orchestration of their behaviour. Research results may span from concept (TRL 2) to prototype (TRL 7 and beyond), but openness and interoperability shall be the common denominator: open and royalty-free specifications of APIs and communication protocols, open hardware platforms, software released under an open source license, adoption of interoperability standards where relevant. Industrial-grade applications or

proof-of-concept demonstrators will be an added value to reinforce the impact of the presented results.

Topics of interest include, but are not limited to (~100 Words):

- Decentralized process orchestration
- Distributed real-time automation
- Distributed data analytics
- Smart Data distribution mechanisms
- Hierarchical real-time orchestration of ICPS
- Strict real-time synchronization of real-time distributed controllers
- Hybrid scan-based/event-based technologies for ICPS
- Approaches and technologies for modular and distributed virtual commissioning of ICPS
- Digital Twin management
- Plug-and-Produce systems
- Cognitive Manufacturing
- Reliable, secure and resilient communications for the Digital Shopfloor

Submissions Procedure: All the instructions for paper submission are included in the conference website <http://icps2018.net/>

Deadlines:

Deadline for submission of papers:	22 Dec 2017	15 Feb 2018
Notification of acceptance of papers:	28 Feb 2018	10 Mar 2018
Final manuscripts due:	31 Mar 2018	

International Program Committee (Reviewers) for the Special Session

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 - Benjamin Molina, Universitat Politècnica de València
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 - Levent Gurgun, CEA LETI
 - Harilaos G. Koumaras, NCSR Demokritos
 - Arkady Zaslavsky, CSIRO
 - Hakima Chaouchii, Telecom Sud Paris
 - Kostas Votis, CERTH-ITI